

Remark

Applicants respectfully request reconsideration of this application as amended. Claims 19 and 75 have been amended. Claims 1-18 and 24-48 remain cancelled. Therefore, claims 19-23, and 49-81 are present for examination.

Allowable Subject Matter

Applicants thank the Examiner for the indication of allowable subject matter. Those claims indicated as containing allowable subject matter remain in the application.

35 U.S.C. §102 Rejection

Penn

The Examiner has rejected claims 19-23, 56, 57, 59, 60, 64, and 67 under 35 U.S.C. §102 (e) as being anticipated by Penn, U.S. Patent No. 6,685,141 ("Penn"). The Examiner suggests that Penn teaches a secondary payload mounted to the exterior of a launch vehicle that carries a primary payload at Column 14, lines 15-17. At Column 13, lines 61 et seq. reads that "the large volume required by the payload may exceed the internal volume capacity of an X33 orbiter. Hence the payload is carried in the payload bay 102 using the large fairing 104 located either on top of the core stage." The next sentence then states that "all available internal volume of both X33 booster 56a and 56b are used to house propellants." Applicants read this passage as ambiguous as to what is in the large fairing 104 and what is in the X33.

For the sake of the current amendment and the current claims, Applicants interpret this section of Penn as teaching that in this configuration, the payload bay 102 houses a payload to be

disposed into space (Col. 14, lines 15-16) and the X33 is an external payload that will also be disposed into space.

In order to clarify the distinction between launching an external payload into space and launching a secondary payload as defined in Claim 19 into space, the present claims have been amended. The X33 is designed as a space shuttle replacement to carry a full crew and include a separate payload bay along with engines, fuel, life support and a fuselage and wings sufficient to allow the orbiter to land safely back on Earth.

The secondary payload of Claim 19 is further defined as an order of magnitude smaller than the primary payload. This is described, for example in paragraph 3 of the present application in which smallsats have a mass of a few hundred kilograms or less while conventional primary payloads have a mass of a few thousand kilograms. While there is no specific description in Penn of the mass of the X33 relative to the mass of the payload in the payload bay 102, it is clear from the drawings that the X33 is significantly larger in volume than the payload bay. Since the X33 includes a substantial fuel supply, boosters, and its own personnel and cargo, it will have at least the mass, if not more mass than the payload carried inside the main fairing.

While the X33 and the space shuttle provide examples of external payloads, in both cases, these payloads are very large and heavy and the primary purpose of the launch vehicle is to launch this external payload. In Claim 19, the external payload is small compared to the primary payload, in the prior art, such smaller payloads have always been carried internally. This is a significant departure from the prior art and not obvious in light of any of the references of record.

Claim 75 has been amended in a manner similar to Claim 19. All of the other claims depend from either Claim 19 or Claim 75. Accordingly, all of the pending claims are believed to be allowable.

Conclusion

Applicants respectfully submit that the rejections have been overcome by the amendment and remark, and that the claims as amended are now in condition for allowance. Accordingly, Applicants respectfully request the rejections be withdrawn and the claims as amended be allowed.

Invitation for a Telephone Interview

The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

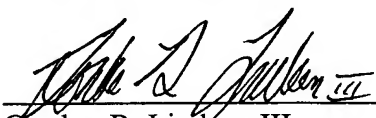
Request for an Extension of Time

Applicants respectfully petition for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17(a) for such an extension. Charge our Deposit Account.

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,
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